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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,392	02/13/2004	Klaus Beck	91535	9012
24628	7590	12/15/2004	EXAMINER	
WELSH & KATZ, LTD 120 S RIVERSIDE PLAZA 22ND FLOOR CHICAGO, IL 60606			MARTINEZ, JOSEPH P	
			ART UNIT	PAPER NUMBER
			2873	

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/779,392	BECK ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Joseph P. Martinez	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-39 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,8-16,21,40,41,43 and 48-56 is/are rejected.
- 7) ☒ Claim(s) 3, 5-7, 17-20, 42, 44-47 and 57-61 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

## **DETAILED ACTION**

### ***Specification***

1. In the instant case, the abstract contains improper reference to a figure in line 1 (i.e. "(Figure 1)") and a grammatical error in line 3, (i.e. "A arrangement serves . . .").

Appropriate correction is required.

2. Furthermore, the applicant has failed to set forth the proper headings in the specification. Appropriate correction is required.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

### *Claim Objections*

Claim 46 is objected to because of the following informalities: In the instant case, claim 46 depends on claim 43 or 43. For purposes of examination, the office interprets claim 46 to depend on claim 43. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4, 8-16, 21, 40, 41, 43 and 48-56 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Meehan et al. (6556364).

Re claim 1, Meehan et al. teaches for example in fig. 2A, 2B and 3, an adjustment arrangement of an optical element, in particular of a lens (210) in an optical system, the optical element having a circumference (outer portion of 210) and being mounted in a mount (200) by a number of bearing feet (215) arranged in a distributed manner over the circumference of the

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optical element (col. 5, ln. 17-18), the optical element being selectively deformable by actuators (col. 5, ln. 30-48), and at least some of the bearing feet being engaged (col. 5, ln. 51-55) by at least one actuator (330) in such a way that the respective bearing foot can be displaced (col. 5, ln. 30-48) in a direction substantially orthogonal to said circumference (col. 5, ln. 38-41).

Re claim 40, Meehan et al. teaches for example in fig. 1, 2A, 2B and 3, a projection lens system (100) in semiconductor lithography (col. 4, ln. 21-22) with a number of optical elements (120, 140 and 180) and with at least one optical element (210) being mounted in a mount (200) by a number of bearing feet (215) arranged in a distributed manner over the circumference (col. 5, ln. 17-18), the optical element being selectively deformable by actuators (col. 5, ln. 30-48), and at least some of the bearing feet being engaged (col. 5, ln. 51-55) by at least one actuator (330) in such a way that the respective bearing foot can be displaced (col. 5, ln. 30-48) in a direction substantially orthogonal to said circumference (col. 5, ln. 38-41).

Re claim 2, Meehan et al. further teaches for example in fig. 2A, a force (via 240B) which runs parallel to the direction of the optical axis (201) can be applied to the respective bearing foot by the actuators (col. 5, ln. 38-41).

Re claims 4 and 43, Meehan et al. further teaches for example in fig. 2A, 2B and 3, each of the bearing feet (215) engaged by one of the actuators (330) has a lever element (310) running in a direction parallel to the optical axis (201), a bearing surface (at the portion of 215 in contact with 210) for the optical element (210) and at least one pivot point (315), the actuator engaging

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in the region (311) of the lever element in such a way that the bearing surface can be displaced in the direction of the optical axis (col. 5, ln. 38-41).

Re claims 8 and 48, Meehan et al. further teaches for example in fig. 2A, 2B and 3, the force (via 240A) exerted by the actuators (330) on the respective bearing feet (215) acts on the respective region of the bearing foot in a direction perpendicular (col. 5, ln. 35-38) to the optical axis (201).

Re claims 9-16 and 49-56, Meehan et al. further teaches for example, the actuators are formed as passively adjustable actuating means (col. 6, ln. 33, wherein the office interprets a screw driven actuator to be capable of performing as a passively adjustable actuating means or an active actuator, depending on the placement of the actuator, as is well known in the art), an actuating screw (col. 6, ln. 33), active actuators (col. 6, ln. 33, wherein the office interprets a piezoelectric driven actuator as active actuators), the actuators act on the respective bearing foot via gear elements (col. 6, ln. 24, wherein the office interprets the linear motor to include gear elements, as is well known in the art), motor drives (col. 6, ln. 24), piezo elements (col. 6, ln. 33) or pneumatic (col. 5, ln. 57) or hydraulic (col. 6, ln. 33) actuators.

Re claims 21 and 41, Meehan et al. further teaches for example in fig. 2B, a lens (210) is provided as the optical element (col. 4, ln. 65).

***Allowable Subject Matter***

Claims 22-39 are allowed.

The following is an examiner's statement of reasons for allowance: the prior art taken alone or in combination fails to anticipate or fairly suggest the limitations of the claims, in such a manner that a rejection under 35 USC 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claim 22.

Specifically regarding claim 22, Meehan et al. teaches for example in fig. 2B, 2A and 3, the state of the art of a projection lens system, including at least one optical element (210) being mounted in a mount by a number of bearing feet (215) arranged in a distributed manner over the circumference of the optical element, each of the bearing feet having two pivots (315 and 312) formed as solid joints.

But, Meehan et al. fails to explicitly teach one end of a lever element being arranged between the two solid joints, one of said solid joints connecting the lever element to the mount and the other solid joint connecting the lever element to a region of the optical element, and the actuator engaging an end of the lever element remote from the solid joints, as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claims 3, 5-7, 17-20, 42, 44-47 and 57-61 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art taken alone or in combination fails to anticipate or fairly suggest the limitations of the claims, in such a manner that a rejection under 35 USC 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in dependent claims 3, 5, 6, 17, 42, 44, 46, 57 and 58.

Specifically regarding claims 3, 6, 42 and 46, Meehan et al. teaches the state of the art of an adjustment arrangement of an optical system.

But, Meehan et al. fails to explicitly teach each of the bearing feet is L-shaped or U-shaped, as claimed.

Specifically regarding claims 5 and 44, Meehan et al. teaches the state of the art of an adjustment arrangement of an optical system.

But, Meehan et al. fails to explicitly teach one end of a lever element being arranged between the two solid joints, one of said solid joints connecting the lever element to the mount and the other solid joint connecting the lever element to a region of the optical element, and the actuator engaging an end of the lever element remote from the solid joints, as claimed.



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Specifically regarding claims 17, 57 and 58, Meehan et al. teaches the state of the art of an adjustment arrangement of an optical system.

But, Meehan et al. fails to explicitly teach fixed bearing feet and bearing feet respectively engaged by one of the actuators, as claimed.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Filho (4778252) discloses in fig. 1 a self centering holder for objects with fingers similar to bearing feet.

Kai (5592251) discloses in fig. 2 an apparatus for preventing image deflection in an optical system with correction drive units similar to actuators with bearing feet.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph P. Martinez whose telephone number is 571-272-2335. The examiner can normally be reached on M-F 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM  
12-7-04



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